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5. (Once amended) The antibody of [any one of claims 1 to 4] claim 1, wherein said DCs are of restricted size and granularity located between lymphocytes and monocytes.
 6. (Once amended) The antibody of [any one of claims 1 to 5] claim 1, wherein said antibody is selected from the group consisting of a monoclonal antibody, a polyclonal antibody, a chimeric antibody, a humanized antibody, a bispecific antibody, a synthetic antibody, an antibody fragment, [or] and a chemically modified derivative thereof [of any of these].
 7. (Once amended) The [bispecific] antibody of claim 6, which said antibody is a bispecific antibody that recognizes an epitope specific for a tumor cell, a virus-infected cell, a T cell, a tumor-associated protein or a microbial protein.
 8. (Once amended) The antibody of [any one of claims 1 to 7] claim 6, wherein said DCs are recognized by the antibody produced by hybridoma cell line DSM ACC2241, by hybridoma cell line DSM ACC 2399 or by hybridoma cell line DSM ACC 2398.
 9. (Once amended) The antibody of [any one of claims 1 to 8] claim 6, which is produced by hybridoma cell line DSM ACC2241, DSM ACC 2399 or DSM ACC 2998.
 10. (Once amended) A continuous, stable antibody-producing cell line which is capable of producing an antibody of [any one of claims 1 to 9] claim 1.
 11. (Once amended) The cell line of claim 10, wherein said cell line is a hybridoma cell line[, preferably the hybridoma cell line] having the deposit number DSM ACC2241, DSM ACC 2398 or DSM ACC 2399.
 12. (Once amended) An antigen or an epitope thereof which is recognized by the antibody of [any one of claims 1 to 9] claim 1.

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13. (Once amended) A polynucleotide encoding at least a variable region of an immunoglobulin chain of the antibody of [any one of claims 1 to 9] claim 1.

15. (Once amended) A host cell comprising a polynucleotide of claim 13[or a vector of claim 14].

16. (Once amended) A method for preparing an antibody capable of recognizing dendritic cells (DCs) from peripheral blood mononuclear cells (PBMCs) or a functional fragment or derivative thereof or at least one immunoglobulin chain thereof, comprising:

- (a) culturing the cell line of [any one of claims 10, 11 or 15] claim 10; and
(b) isolating said antibody, functional fragment or derivative thereof or at least one immunoglobulin [chain(s)] chain thereof from the culture.

17. (Once amended) An antibody, fragment or [derivatives] derivative thereof or immunoglobulin chain encoded by a polynucleotide [of claim 13] encoding at least a variable region of an immunoglobulin chain of said antibody which reacts with an epitope on DCs displaying features of at least one of immature or mature DCs from PBMCs, but does not react with other PBMCs or obtainable by the method of claim 16.

18. (Once amended) A polypeptide comprising:

- (a) a domain of a binding site of the antibody of [any one of claims 1 to 9 and 17] claim 1 or an antigen or epitope [of claim 12] that is recognized by said antibody; and
(b) at least one further domain.

20. (Once amended) The polypeptide of claim 18 [or 19], wherein said at least one further domain comprises an effector molecule having a conformation suitable for biological activity, capable of sequestering an ion or selective binding to a solid support or to a preselected determinant.

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21. (Once amended) The polypeptide of claim 20, wherein said effector molecule is selected from the group consisting of an enzyme, toxin, antigen, receptor, binding site, biosynthetic antibody binding site, growth factor, cell-differentiation factor, lymphokine, cytokine, hormone, a remotely detectable moiety[, or] and anti-metabolite.

22. (Once amended) The polypeptide of claim 20, wherein said molecule capable of sequestering an ion is selected from the group consisting of calmodulin, [methallothionein] metallothionein, a fragment of calmodulin or metallothionein [thereof], or an amino acid sequence rich in at least one of glutamic acid, aspartic acid, lysine, and arginine.

23. (Once amended) The polypeptide of claim 20, wherein said molecule capable of selective binding to a solid support is selected from the group consisting of a positively or negatively charged amino acid sequence, a cysteine-containing amino acid sequence, streptavidin, a fragment of *Staphylococcus* [*Staphylococcus*] protein A, GST, a His-tag or LexA.

26. (Once amended) A polynucleotide which upon expression encodes the antigen or epitope [of claim 12] that is recognized by said antibody of claim 1 or encodes a polypeptide [of any one of claims 18 to 25] comprising a domain of a binding site of said antibody.

28. (Once amended) A cell transfected with the polynucleotide of claim 26 [or the vector of claim 27].

29. (Once amended) A method for the preparation of the antigen or epitope [of claim 12] that is recognized by said antibody of claim 1 or a polypeptide [of any one of claims 18 to 25] or a fragment thereof comprising a domain of a binding site of said antibody which process comprises cultivating a cell [of claim 28] transfected with the polynucleotide encoding the antigen or epitope that is recognized by said antibody of claim 1 or encodes a polypeptide comprising a domain of a binding site

of said antibody, and isolating the polypeptide from the culture.

30. (Once amended) A method for isolating or identifying DCs [as defined in any one of claims 1 to 4] from peripheral blood, comprising [the steps of]:

- (a) contacting a sample of peripheral blood with the antibody of [any one of claims 1 to 9] claim 1; [and]
- (b) detecting the presence of antibody/DC complexes; [and/or] and optionally
- (c) recovering [dendritic cells] DCs which have bound to said antibody or functional fragment thereof.

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31. (Once amended) Dendritic cells [as defined in any one of claims 1 to 4] recognized by the antibody of [any one of claims 1 to 9] claim 1, containing an antigen or epitope [of claim 12] which is recognized by said antibody or obtainable by [the] a method [of claim 30] comprising:

- (a) contacting a sample of peripheral blood with the antibody of claim 1;
- (b) detecting the presence of antibody/DC complexes; and optionally
- (c) recovering DCs which have bound to said antibody or functional fragment thereof.

33. (Once amended) A method for preparing activated antigen-specific human T-cells in vitro comprising co-culturing T-cells with the [dendritic cells] DCs of claim 31 [or 32], exposed to an antigen or expressing an antigen to activate the T-cells to proliferate or to become cytotoxic in response to the antigen.

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34. (Once amended) A method for identifying an antigen recognizable by T-cells comprising:

- (a) co-culturing T-cells with the [dendritic cells] DCs of claim 31 [or 32], exposed to said antigen, and
- (b) measuring T-cell proliferation, T-cell cytotoxicity or T-cell lymphokine production.

35. (Once amended) The method of claim [33 or] 34, wherein the T-cells are CD4⁺ or CD8⁺ cells.
36. (Once amended) A method for identifying T-cell activating or co-stimulating compounds comprising:
- (a) culturing the [dendritic cells] DCs of claim 31 [or 32] and T-cells in the presence of a component capable of providing a detectable signal in response to T-cell activation with a compound to be screened under conditions to permit interaction of the compound with the cells, and
 - (b) detecting the presence of a signal generated from the activation of the T-cells.
37. (Once amended) A method for identifying compounds which suppress T-cell activation or stimulation comprising:
- (a) contacting T-cells and [dendritic cells] DCs of claim 31 [or 32] in the presence of a component capable of providing a detectable signal in response to the activation of said T-cells by a T-cell activator with a compound to be screened under conditions to permit activation of the T-cell, and
 - (b) detecting the presence or absence of the signal generated from the interaction of the activator with the T-cells.
38. (Once amended) The method of [any one of claims 33 to 37] claim 33, wherein said dendritic cells are exposed to an antigen by incubation in culture media.
39. (Once amended) The method of [any one of claims 33 to 38 or the polypeptide of claim 21] claim 38, wherein said antigen is a tumor antigen, a viral antigen, a microbial antigen, an allergen, an auto-antigen, a virus, a microorganism, a polypeptide, a peptide or a plurality of tumor cells.
40. (Once amended) The method for the production of a pharmaceutical composition comprising [the steps of] the method of [any one of claims 34 to 39 and] claim 37, wherein said method further comprises (c) formulating the compound identified in step (b) as providing a detectable signal in a pharmaceutically acceptable form.

41. (Once amended) A kit comprising the antibody of [any one of claims 1 to 9 and 17] claim 1, [the] an antigen or epitope [of claim 12] which is recognized by said antibody, [the] a polypeptide [of any one of claims 18 to 25] or a fragment thereof comprising a domain of a binding site of said antibody, [the] a polynucleotide [of claim 13 or 26] which upon expression encodes at least a variable region of an immunoglobulin chain of said antibody, encodes the antigen or epitope that is recognized by said antibody or encodes a polypeptide comprising a domain of a binding site of said antibody, [the] a vector [of claim 14 or 27] comprising said polynucleotide, [the dendritic cells of claim 31 or 32], DCs recognized by the antibody of claim 1, [the] T-cells obtainable by [the] a method [of claim 33 or 35] in which T-cells are co-cultured with said DCs, exposed to an antigen or expressing an antigen to activate the T-cells to proliferate or to become cytotoxic in response to said antigen, or [the] a compound obtainable by [the] a method [of any one of claim 38 to 40] comprising:

- (a) contacting T-cells and DCs recognized by said antibody of claim 1 in the presence of a component capable of providing a detectable signal in response to the activation of said T-cells by a T-cell activator with a compound to be screened under conditions to permit activation of the T-cell, and
- (b) detecting the presence or absence of the signal generated from the interaction of the activator with the T-cells, wherein said DCs are exposed to an antigen by incubation in culture media.

42. (Once amended) A composition comprising the antibody of [any one of claims 1 to 9 and 17] claim 1, [the] an antigen or epitope [of claim 12] which is recognized by said antibody, [the] a polypeptide [of any one of claims 18 to 25] or a fragment thereof comprising a domain of a binding site of said antibody, [the] a polynucleotide [of claim 13 or 26] which encodes at least a variable region of an immunoglobulin chain of said antibody, encodes the antigen or epitope that is recognized by said antibody or encodes a polypeptide comprising a domain of a binding site of said antibody, [the] a vector [of claim 14 or 27] comprising said polynucleotide, [the dendritic cells of claim 31 or 32], DCs recognized by the

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antibody of claim 1, [the] T-cells obtainable by [the] a method [of claim 33 or 35] in which T-cells are co-cultured with said DCs, exposed to an antigen or expressing an antigen to activate the T-cells to proliferate or to become cytotoxic in response to said antigen, or [the] a compound obtainable by [the] a method [of any one of claim 38 to 40] comprising:

- (a) contacting T-cells and DCs recognized by said antibody of claim 1 in the presence of a component capable of providing a detectable signal in response to the activation of said T-cells by a T-cell activator with a compound to be screened under conditions to permit activation of the T-cell, and
- (b) detecting the presence or absence of the signal generated from the interaction of the activator with the T-cells, wherein said DCs are exposed to an antigen by incubation in culture media.

44. (Once amended)

44. (Once amended) A non-human transgenic animal comprising the polynucleotide [of claim 13 or 26] which encodes at least a variable region of an immunoglobulin chain of said antibody of claim 1 or encodes the antigen or epitope that is recognized by said antibody or encodes a polypeptide comprising a domain of a binding site of said antibody, [the] a vector [of claim 14 or 27] comprising said polynucleotide, [the] dendritic cells of claim 31 or 32, DCs recognized by the antibody of claim 1, [the] T-cells obtainable by [the] a method [of claim 33 or 35] in which T-cells are co-cultured with said DCs, exposed to an antigen or expressing an antigen to activate the T-cells to proliferate or to become cytotoxic in response to said antigen or cells [of claims 15 or 28] comprising said polynucleotide.

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45. (Once amended) A diagnostic composition comprising the antibody of [any one of claims 1 to 9 and 17] claim 1, [the] an antigen or epitope [of claim 12] which is recognized by said antibody, [the] a polypeptide [of any one of claims 18 to 25] or a fragment thereof comprising a domain of a binding site of said antibody, [the] a polynucleotide [of claim 13 or 26] which encodes at least a variable region of an immunoglobulin chain of said antibody, encodes the antigen or epitope that is recognized by said antibody or encodes a polypeptide comprising a domain of a binding site of said antibody, [the] a vector [of claim 14 or 24] comprising said

polynucleotide, the cells [of claims 15 or 28] comprising said polynucleotide, and optionally suitable means for detection.

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cancel. 46. (Once amended) A vaccine comprising the antigen exposed [dendritic cells] DCs or antigen expressing DCs [as defined in claim 31 or 32] recognized by the antibody of claim 1 or [the] an antigen or epitope [of claim 12] thereof recognized by said antibody.

47. (Once amended) An immunopotentiating composition comprising [the dendritic cells of claims 31 or 32] DCs recognized by the antibody of claim 1, and at least one antigen [as defined in claim 12] which is recognized by said antibody, wherein said composition is capable of generating a protective immunological response to a disease in a human or an animal susceptible to [such] said disease.

53. (Once amended) A method for identifying molecules synthesized by DCs having enhancing, modulating or suppressing effect on the antigen-specific activation of T cells comprising:

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- (a) separating of molecules secreted by DCs of claim 31 into the culture supernatant and testing the enriched or isolated molecules for antigen-specific T cell activation in a cell culture system lacking DCs; [and/or] and optionally.
 - (b) comparing gene expression in said DCs [of claim 31 with that] to gene expression in other antigen-presenting cells.

54. A method of propagating [DC] DCs in vitro comprising:

- (a) culturing DCs of claim 31 in a specific cytokine cocktail supporting growth and proliferation of DCs in vitro; [and/or] and optionally.
- (b) immortalizing said DCs by transduction of transforming genes.

Kindly add the following claims:

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--55. A method of modifying the DCs of claim 31 comprising transfecting said DCs with at least one gene which upon expression modulates or programs the immune response *in vitro* or *in vivo*.

56. The method of claim 55, wherein said gene encodes a cytokine or a signaling molecule.

57. A method of modulating the immune response in a subject in need of said modulation comprising administering to said subject at least one pharmaceutical composition comprising at least one of:

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- (a) activated antigen-specific human T-cells that were exposed to an antigen or express an antigen that activates said T-cells to proliferate or to become cytotoxic in response to said antigen;
 - (b) DCs recognized by the antibody of claim 1, containing an antigen or epitope that is recognized by said antibody or obtainable by a method comprising:
 - (i) contacting a sample of peripheral blood with the antibody of claim 1,
 - (ii) detecting the presence of antibody/DC complexes, and optionally,
 - (iii) recovering DCs which have bound to said antibody or functional fragment thereof; or
 - (c) an antibody of claim 1 selected from the group consisting of a monoclonal antibody, a polyclonal antibody, a chimeric antibody, a humanized antibody, a bispecific antibody, a synthetic antibody, an antibody fragment thereof and a chemically modified derivative thereof.--